Remarks:

The above-identified patent application became abandoned for failure to file a timely response to the official action dated November 4, 2004, which set a three month period for response. A Notice of Abandonment was mailed May 17, 2005.

Applicant is submitting herewith a petition for revival of this application, together with the required petition fee, as set forth in 37 C.F.R. §1.117(m). Applicant is entitled to small entity status, as indicated in the Utility Patent Application Transmittal form submitted upon filing this application. No other fee should be required, as it is the understanding of the undersigned attorney that a response does not require a petition and fee for extension of time as a condition of revival. See 1056 O.G. 61 (1985).

The November 4, 2004 Official Action and the references cited therein have been carefully considered. In view of the amendment presented herewith and these remarks, favorable reconsideration and allowance of this application are respectfully requested.

In the November 4, 2004 Official Action, claim 14 was objected to as informal, claim 12 was rejected as indefinite because the recitation "said single dose" lacks antecedent basis and all of the claims, 8-14, were rejected as allegedly unpatentable over prior art. Specifically, claims 8-11 stand rejected under 35 U.S.C. §103 as unpatentable over U.S. Patent 4,999,380 to Berger et al. in view of U.S. Patent 5,886,037 to Klor et al. and/or published international patent application WO93/21774 of Loria. According to the examiner, it would have been obvious to one of ordinary skill in art at the time the present invention was made to optimize the effective amounts of fatty acids and dosages of the Berger reference as a matter of routine experimentation, as purportedly evidences by the Klor and/or Loria references. Also, claims 8-14 have been rejected under 35 U.S.C. §103(a)

as allegedly unpatentable over the Berger reference in view the Klor reference and/or the Loria reference, as stated above, and further in view of U.S. Patent 6,340,485 to Coupland. According to the examiner, it would have been obvious to one of ordinary skill in the art at the time the present invention was made to use Echium oil in the method of the Berger reference, as Echium oil is known to contain the same fatty acids in similar amounts relative to the BCSO utilized in the method of the Berger reference.

Claims 8-11 have also been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over the Klor reference in view of the Loria reference and further in view of the Berger reference. According to the examiner, it would have been obvious to one of ordinary skill in the art at the time the present invention was made to include α-linolenic acid in the composition of the Klor reference because of its disclosed advantage of reducing serum lipids. The examiner further contends in this regard that it would have been obvious to one of ordinary skill in the art to optimize the effective amounts of the fatty acids and dosages of the Klor reference and Loria reference as a matter of routing experimentation, as purportedly evidenced by the Berger reference.

Claims 8-14 have been further rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over the Klor reference in view of the Loria reference the Berger reference, and further in view of the Coupland reference. The Klor reference, the Loria reference and the Berger reference are cited for the same disclosures noted above. The examiner relies on the Coupland reference as allegedly showing that it would have been obvious to one of ordinary skill in the art at the time the present invention was made to use Echium oil in the methods of Klor and Loria, since Echium oil is known to contain the same fatty acids in similar amounts relative to the composition that would be obtained if one were to combine the teachings of the prior art references as proposed by the

examiner, as supposedly evidenced by the Coupland reference.

The foregoing objection and rejections constitute all of the grounds set forth in the November 4, 2004 Official Action for refusing the present application. For the reasons set forth herein below, each and every one of the objection and rejections set forth in the November 4, 2004 Official Action is respectfully traversed.

In accordance with the present amendment the dependencey of claim 12 has been changed so as to provide proper antecedent basis for the recitation "said single dose", and claim 14 has been amended to provide a period at the end. As a result of these amendments, the 35 U.S.C. §112, second paragraph rejection of claim 12 has been overcome, as has the objection to claim 14 as being informal.

Turning to the various prior art rejections set forth in the November 4, 2004 Official Action, the prior art references cited in support thereof cannot be combined in the manner proposed by the examiner, and even if they could be, the resultant combinations do not render obvious the method for treating hypertriglyceridemia claimed in claims 8-14.

The examiner's reliance on Berger as evidence of obviousness with respect to the method of treating hypertriglyceridemia, as stated in claims 8-14, is clearly misplaced. Notwithstanding the examiner's assertion to the contrary, Berger does <u>not</u> teach a method for treating hypertriglyceridemia. Nor can the Berger method for treating lipoprotein disorders associated with cholesterol metabolism reasonably be considered effective for the treatment of hypertriglyceridemia.

The Berger reference discloses a method involving the administration of black currant seed oil (BCSO) for the treatment of lipoprotein disorders associated with cholesterol metabolism. This method is disclosed as producing a reduction in LDL cholesterol (the so-called "bad cholesterol"), while significantly increasing the HDL cholesterol (the so-called

"good cholesterol"). The lipoprotein disorders associated with cholesterol metabolism that are intended to be treated by the method of the Berger reference include (I) essential hypercholesterolemia (Type IIa), (ii) mixed hyperlipidemia (Type IIb) and (iii) dys-beta-lipoproteinemia. Although certain of these disorders are characterized, in part, by an increase in normal triglyceride level (TG), the Berger reference does not mention the treatment of hypertriglyceridemia, per se, using the method described therein. Moreover, there is no indication anywhere in the Berger reference of the effect on TG produced by the method described therein. Thus, the data reported in Tables 1-3 include total plasmatic cholesterol level (TC) CLDL and CHDL, but there is no mention of TG. The only conclusions drawn from these data in the Berger reference are that the mean of the CHDL increased distinctly, the means of CLDL and the TC decreased and the mean of the standard atherogenicity risk factor decreased. It simply cannot reasonably be concluded from these data that the method of the Berger reference produces a lowering of plasma triglycerides, as does the method of the present invention. See example II at pages 12-15 of the present specification.

It is noteworthy, in considering the possible relevance of the Berger reference to the present invention, that BCSO is purportedly superior to evening primrose oil (EPO) for the treatment of lipoprotein disorders associated with cholesterol metabolism, in that BCSO produces a reduction in CLDL while significantly increasing CHDL, whereas EPO, which also comprises substantial amounts of polyunsaturated fatty acids, produces a reduction in CLDL with no modification of CHDL. See column 1, lines 31-41 of the Berger reference. The Berger reference also shows BCSO to be superior to grape seed oil (GSO) for treatment of lipoprotein disorders associated with cholesterol metabolism. See columns 3-5 of the Berger reference. GSO also comprises a substantial amount

of polyunsaturated fatty acids. These comparisons show that variations in the polyunsaturated fatty acid content of oils produce substantial differences in their biochemical effects.

There are fundamental differences in fatty acid content that distinguish the composition used in the present invention from the BCSO used in the method of the Berger reference. The relative amounts of linoleic acid (LA), γ-linolenic acid (GLA), α-linolenic acid (ALA) and stearidonic acid (SA) in BCSO, as a percentage of total polyunsaturated fatty acid content of the oil, is as follows: LA=57.3%; GLA=21.7%; ALA=16.6%; and SA=4.4%. Thus, the relative amounts of linoleic acid and stearidonic acid in applicant's composition (LA=10-35% and SA=15-55%, respectively, of total polyunsaturated fatty acid content) serve to distinguish it over the BCSO used in the Berger method (LA=57.3%; SA=4.4%). The examiner is, therefore, plainly mistaken in contending that the percent of fatty acids disclosed in the Berger reference overlap or are close to the claimed amounts.

The Klor reference and the Loria reference, which are cited as allegedly providing motivation for modifying the Berger method, fail to compensate for the above-noted deficiencies in the disclosure of the Berger reference.

The fatty acid composition described in the Klor reference includes, by weight of total fatty acid, 55-95 wt.% of medium chain fatty acids (MCFAs), which are not polyunsaturated fatty acids. See column 2, lines 8-11 and 33-35, as well as claim 1 of the Klor reference. Indeed, the Klor reference states that the MCFA content of the composition described therein is "preferably from 65 or even from 70 up to 90g, especially about 75-80g of medium-chained fatty acids ....". See column 2, lines 8-10 of the Klor reference. Thus, the composition disclosed by the Klor reference would allow for a maximum of 45 wt.% (more preferably a maximum of 20-25 wt.%) of fatty acyl compounds other than MCFAs, which includes all of the n-3 polyunsaturated fatty acid components and

"other fatty acid" components (the latter category encompassing the n-6 polyunsaturated fatty acids). As such, the Klor reference is readily distinguishable from the composition claimed by applicant, which requires a fatty acyl compound mixture having a polyunsaturated fatty acid content of at least 65 wt.%. Moreover, the Klor reference further discloses that DHA and EPA, both n-3 polyunsaturated fatty acids (which are not required in an applicants' composition), are preferably present in a combined amount of at least 5 wt.%, more preferably at least 8 wt.% of Klor's fatty acid composition.

It is clear from the overall disclosure of the Klor reference, therefore, that the composition disclosed therein has to have 60 wt.% or more of fatty acids other than those called for in applicants' claimed method.

The Loria reference discloses a method of balancing cooking oil or fat, such as corn, peanut and safflower oil, which contain at least about 7% saturated fatty acids and at least about 5% linoleic acid, by adding an amount of α-linolenic acid equivalent to provide a food product in which the α-linolenic acid content is 1% to 10% of the total fatty acid content of the oil or fat. Such "balanced" oil or fat is disclosed as providing protection against hypercholesterolemia and excess total lipids. The oil or fat composition described as being useful in carrying out the Loria method contains no reported amount of stearidonic acid, which is a required component of the fatty acid composition used in the method of the present invention.

In view of the clear-cut compositional differences between the oils disclosed in each of the cited prior art references and, more importantly, between the prior art references and the fatty acid composition recited in claims 8-11, there is absolutely no motivation for modifying the BCSO, which is required for use in the Berger method, in order to arrive at the present invention, and certainly no expectation

that the resulting composition, even if made, could be effective for the treatment of hypertriglyceridemia.

Regarding the 35 U.S.C. §103(a) rejection of claims 8-14 over the Berger reference considered in view of the Klor reference and/or the Loria reference and further in view of the Coupland reference, the shortcomings in the combined disclosures of the Berger, Klor and Loria references have already been discussed above. The disclosure of the Coupland reference fails to make-up for those shortcomings.

There is no dispute that the Coupland reference discloses Echium oil, which is the source material for applicant's preferred composition for treating hypertriglyceridemia. However, the Coupland reference fails to disclose that Echium oil has any anti-hypertriglyceridemic effect. More importantly, as pointed out above, there is no specific teaching in the Berger reference that BCSO has any triglyceride lowering effect. Furthermore, the effect which is sought to be obtained by the Berger method, i.e. a reduction in CLDL, while significantly increasing CHDL, is indicated as not obtainable when using EPO or GSO, which are also oils having a high polyunsaturated fatty acid content. It cannot reasonably be inferred, therefore, that merely because one fatty acid composition purportedly has a triglyceride lowering effect, that a fatty acid composition made up of similar constituents in substantially different amounts would produce the same effect.

It is also noteworthy that, according to the Berger reference, the concomitant reduction in CLDL and significant increase in CHDL was obtained by BCSO alone. Indeed, Berger's claims are expressly limited to the administration of black currant lipid (BCSO). Thus, a substantial reformulation of the specific oil required in the Berger method would be necessary, based on the proposed suggestions of the Klor reference, the Loria reference and Coupland reference, in order to arrive at the present invention. It has long been

held, however, that patent references cannot properly be combined if the effect of the combination would be to destroy the invention on which one of the reference patents is based. Ex parte Hartmann, 186 U.S.P.Q. 366 (P.T.O. Bd. Apps. 1974). This is precisely what would happen in the present case as a result of the modification of the Berger method proposed by the examiner.

Turning to the §103(a) rejection of claims 8-11 over the Klor reference in view of the Loria reference and further in view of the Berger reference, this combination of references likewise fails to suggest the particular mixture of fatty acyl compounds in the relative proportions called for in claims 8-11.

The examiner's interpretation of the Klor reference, which is predicated on the patent's abstract, conspicuously omits the clear and unequivocal disclosure, elsewhere in the reference, that Klor's composition includes, by weight of total fatty acid, 55-95 wt.% of medium chain fatty acids (MCFAs), which are not polyunsaturated fatty acids. See column 2, lines 8-11 and lines 33-35, as well as claim 1 of the Klor reference. Indeed, the Klor reference states that the MCFA content of the composition described therein is "preferably from 65 or even from 70 up to 90g, especially about 75-80g of medium-chain fatty acids....". See column 2, lines 8-10 of the Klor reference. Thus, the composition disclosed by the Klor reference would allow for a maximum of 45 wt.% (more preferably a maximum of 20-25 wt.%) of fatty acyl compounds other than MCFAs, which includes all of the n-3 polyunsaturated fatty acid components and "other fatty acid" components (the latter category encompassing the n-6 polyunsaturated fatty acids). As such, the method of the Klor reference is readily distinguishable from the method claimed by applicant, which requires a fatty acyl compound mixture having a polyunsaturated fatty acid content of at least 65 wt.%.

Moreover, the Klor reference further discloses that DHA and EPA, both n-3 polyunsaturated fatty acids (which are not required in applicant's composition), are preferably present in a combined amount of at least 5 wt.%, more preferably at least 8 wt.% of Klor's fatty acid composition.

It is clear from the overall disclosure of the Klor reference, therefore, that the method described therein necessarily employs 60 wt.% or more of fatty acids other than those called for in applicant's claimed method.

The difference between a patent claim and the prior art, with respect to a range or value of a particular variable, can properly be considered *prima facie* obvious only when the difference in range or value is minor. Haynes International, Inc. V. Jessop Steel Company, 28 U.S.P.Q. 2d 1653-1655, n3 (Fed. Cir. 1993). The difference between a polyunsaturated fatty acid content of at least 65 wt.%, as called for in applicant's claims, and a polyunsaturated fatty acid content of 45 wt.%, which is the maximum polyunsaturated fatty acid content allowable in the method disclosed in the Klor reference, can hardly be considered "minor". In order for the polyunsaturated fatty acid content of Klor's composition to be at the maximum value of 45 wt.%, it must be assumed that all of the "other fatty acids" are polyunsaturated fatty acids. Of course, if that were not so (for example, if stearic acid and/oleic acid were included), the maximum polyunsaturated fatty acid content in the composition employed in Klor's method would be commensurately less than 45 wt.%.

Given that the examiner's interpretation of the Klor reference is based primarily on the patent's abstract, the present rejection is manifestly untenable. Notwithstanding the examiner's contention to the contrary , at page 7 of the November 4, 2004 Official Action, the Klor reference does not teach a method for treating hypertriglyceridemia by administering a fatty acyl composition comprising 55-95 wt.%

stearidonic acid. Nor would those skilled in the art view the Klor reference as providing such a teaching. See column 2, lines 8-11 and lines 33-35 and claim 1 of the Klor reference. It is clear from the overall disclosure of the Klor reference that the method described therein employs 55-95 wt.% of MCFAs, 5-25 wt.% n-3 polyunsaturated fatty acids and 0-30 wt.% of other fatty acids.

The examiner cannot rely on such clearly erroneous disclosure as evidence of unpatentability in this case. Under similar circumstances in In re Yale, 168 U.S.P.Q. 46, 48-49, (C.C.P.A. 1970), it was observed that:

> "not only is the listing of [the erroneously named compound] in [the prior art reference] a typographical error but also this fact would be apparent to one of ordinary skill in the art when reading [the prior art reference]. Since it is an obvious error, it cannot be said that one of ordinary skill in the art would do anything more than mentally disregard [the erroneously named compound] as a misprint or mentally substitute [the correct name of the patentably distinguishable compound] in its place.

Likewise, in the present case, the error in Klor's abstract is readily apparent when considered in light of the overall disclosure of the reference. Furthermore, it is impermissible, within the framework of §103 to pick and choose from any one reference only so much of it as will support a holding of obviousness, to the exclusion of other parts necessary to the full appreciation of what the reference fairly suggests to one of ordinary skill in the art. In re Wesslau, 147 U.S.P.Q. 391 (C.C.P.A. 1965).

It is particularly noteworthy that in Table 2 at Column 6 of the Klor reference, which lists the components of a representative embodiment of Klor's invention, neither γ-linolenic acid (GLA) nor α-linolenic acid (α-LNA) is listed. Stearidonic acid, although listed, is in an amount (1.2 wt.%

of listed polyunsaturated fatty acids) which is much less than that required in applicant's claims, as a percentage of the weight of the polyunsaturated fatty acid content of the composition.

It is clear that the disclosure of the Klor reference , when correctly interpreted, in no way suggests the method for treating hypertriglyceridemia claimed by applicant herein.

Furthermore, even if the disclosure of the Klor reference were combined with the Loria reference and the Berger reference in the manner proposed by the examiner, the resulting method would not satisfy all of the recitations of applicant's claims 8-11. The Klor reference discloses a fatty acid composition which may comprise up to 30 wt.% of "other fatty acids", which includes α-linolenic acid (See Column 3, line 19 of the Klor reference). According to the Loria reference, however, the composition of a "balanced" oil has an α-linolenic acid content from 1-10% of the total fatty acid content of the oil. Thus, if one skilled in the art were to modify the fatty acid content of the Klor reference in accordance with the teachings of the Loria reference, the resulting composition would be further removed from the fatty acid composition recited in claims 8-11 than the unmodified composition of the Klor reference, because the proportional amount of α-linolenic acid would be even less, i.e. 1-10% of the total fatty acid content of the oil. It is noted that the Echium oil compositions disclosed at page 7 of the present specification contain 33.1 wt.% and 47.3 wt.% of α-linolenic acid, respectively.

The deficiencies in the disclosure of the Berger reference have already been addressed above in relation to the impropriety of the obviousness rejection of claims 8-11 based on the Berger reference considered in view of the Klor reference and the Loria reference, and will not be repeated here. Suffice it to say that the Berger reference provides no

indication that the BCSO described therein provides any triglyceride lowering effect. Nor does the composition of BCSO provide response for the particular compositional recitation of applicant's claims 8-11. With regard to linoleic acid and stearidonic acid content, the distinctions are substantial and not minor. Cf. Haynes International, Inc. V. Jessop Steel Company, supra.

As for the 35 U.S.C. §103(a) rejection of claims 8-14 over the Klor reference in view of the Loria reference, the Berger reference and further in view of the Coupland reference, here again the disclosure of the Coupland reference fails to compensate for the above-noted deficiencies in the disclosures of the Klor, Loria and Berger references.

The Coupland reference, as previously noted, is completely silent regarding the use of Echium oil for treating hypertriglyceridemia. Furthermore, linoleic acid, γ-linolenic acid and α-linolenic acid are characterized by the Klor reference as "other fatty acids", which may make up 0-30 wt.% of Klor's fatty acid composition. In view of the lower limit of 0 wt.%, none of these "other fatty acids" is required to produce the anti-hypertriglyceridemic effect described in the Klor reference. On the other hand, linoleic acid, γ-linolenic acid and α-linolenic acid together constitute a major proportion of Echium oil. Thus, there is certainly no motivation provided by the art of record for administering Echium oil to treat hypertriglyceridemia, based on any purported suggestion found in the Klor reference.

The fundamental flaw in the examiner's obviousness argument based on the combined disclosures of the Klor, Loria, Berger and Coupland references is that a drastic reformulation of the Klor composition is required to arrive at the claimed invention, and there is nothing in the art of record to lead one of ordinary skill in the art to make such a reformulation. No matter how the examiner attempts to interpret the disclosure of the Klor reference otherwise, the fact remains

that the composition of the Klor reference requires, as an essential aspect of the invention described therein, 55-95 wt.% of medium chain fatty acids. See Klor's claim 1. The result of reducing the weight percent of medium chain fatty acids in Klor's composition to allow for the quantity of polyunsaturated fatty acids called for in applicant's claims, as allegedly suggested by the combination of the cited references, would be to destroy the invention on which Klor's patent is based. As noted above, patent references cannot properly be combined if the effect of the combination would be to destroy the invention on which one of the references is based. Ex parte Hartmann, supra.

In summary, there is no teaching or suggestion in the combined disclosures of Berger, Klor and Loria on the one hand or the combined disclosures of Klor, Loria and Berger on the other hand, each combination being considered with or without consideration of the Coupland reference, that the combination of fatty acids in the proportions recited in claims 8-14 would be expected to produce an anti-hypertriglyceridemic effect when administered for the treatment of hypertriglyceridemia. That being the case, applicant's claimed method cannot reasonably be considered prima facie obvious.

In view of the present amendment and the foregoing remarks, this application is believed to be in condition for allowance, accordingly, the issuance of a notice of allowance is in order, and such action is earnestly solicited.

Respectfully submitted,

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